

REMARKS

Favorable reconsideration and allowance are respectfully requested for Claims 1-20 in view of the foregoing amendments and the following remarks.

Responsive to the drawing objection, by way of the foregoing amendment requesting approval of drawing corrections, the objection is obviated. Regarding an evacuator, Figure 1 shows the evacuator assembly relating to reference numerals 7, 8, and 10. Regarding a pre-crash sensory mechanism, Figure 1 has been corrected to schematically show such. Regarding an overpressure container, Figure 3 is newly submitted showing an overpressure container 20 and a Venturi nozzle 21 using the Venturi principle. Support for this is found in Claims 12 and 13 and from the specification at page 6, paragraph [0016]. No new matter has been entered. Regarding a vehicle passenger seat, the head restraint shown in Figure 1 is part of a vehicle seat. Accordingly, withdrawal of the objection is respectfully requested.

Responsive to the objection to the specification and the disclosure, by way of the foregoing amendments, the objection is obviated. Regarding the incorporation of German Patent Document DE 297 10 511 U1, a Supplemental Information Disclosure Statement is submitted herewith. The incorporation of the German Patent Document is not claimed. Accordingly, withdrawal of the objection is respectfully requested.

Responsive to the claim objection, by way of the foregoing amendments, the objections are obviated. Accordingly, withdrawal of the objection is respectfully requested.

Responsive to the claim rejections under 35 U.S.C. §112, second paragraph, by way of the foregoing amendment, the rejections are obviated.

Regarding the refilling of the gas, the limitation is seen as definite since the gas is refilled into the container. Accordingly, withdrawal of the rejections is respectfully requested.

Claims 1, 3-5, 8, 9, 14, 16, and 17 were rejected under 35 U.S.C. §102(b) as unpatentable over Grossmann. Claims 2, 15, and 18 were rejected under 35 U.S.C. §103(a) as unpatentable over Grossmann in view of Cuevas. Claim 5 was rejected under 35 U.S.C. §103(a) as unpatentable over Grossmann in view of Parrish. Claims 6 and 7 were rejected under 35 U.S.C. §103(a) as unpatentable over Grossmann in view of Thorne. Claims 11-13 were rejected under 35 U.S.C. §103(a) as unpatentable over Grossmann in view of Kunz. Claims 19 and 20 were rejected under 35 U.S.C. §103(a) as unpatentable over Grossmann. These rejections are respectfully traversed.

Grossmann does not disclose or suggest, among other features, an evacuator assembly for an abrupt evacuation of the gas in the event of a crash. Grossmann provides an extraction pump 20 which is adjustable by a passenger to provide a level of firmness in the head restraint via the switch 22 (see column 3, lines 9-12). Grossmann does not disclose that the extraction pump 20 operates in the event of a crash to abruptly evacuate the gas. The extraction pump in Grossmann simply operates to adjust the firmness of the head restraint. Thus, it is respectfully submitted that the claimed invention is not anticipated by Grossmann and is patentably distinguishable over Grossmann, as noted above. Accordingly, withdrawal of the rejection is respectfully requested.

Since Claims 2-13, 15, 16, and 18 depend from Claims 1, 14, and 17, it is respectfully submitted that these claims are also patentably distinguishable over the cited references. Withdrawal of the rejections is respectfully requested.

In view of the foregoing amendments and remarks, the application is respectfully submitted to be in condition for allowance, and prompt favorable action thereon is earnestly solicited.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #225/50217).

Respectfully submitted,



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MARKED-UP VERSION OF AMENDMENTS

IN THE SPECIFICATION

Please amend the specification as follows:

Please delete paragraph [0006] and insert the following paragraph:

Furthermore, European Published Patent Application EP 0 925 997 A2 discloses a head restraint which is moved forwards in the event of a rear-end impact in order to intercept the vehicle occupant's head which is flung rearwards. To this end, at least one reservoir, which is filled with a flowable medium and is connected to a fillable element which is arranged in the head restraint, is arranged in the backrest of a vehicle seat, with the result that, in the event of a rear-end impact and as a function of the severity thereof, the flowable medium is displaced upwards by the upper part of the vehicle occupant's body into the element of the head restraint, which then in consequence moves forwards in the direction of the occupant's head.

Please delete paragraph [0026] and insert the following paragraph:

Figure 1 shows a highly schematic cross section through a head restraint of a vehicle seat according to preferred embodiments of the invention, shown in a normal state; [and]

Please delete paragraph [0027] and insert the following paragraph:

Figure 2 shows a schematic illustration of an exemplary embodiment of a container which is arranged in the head restraint according to the invention and is equipped with chambers which differ in filling and design[.]; and

Please insert the following new paragraph after [0027] in the initial application:

Figure 3 shows an embodiment utilizing the Venturi principle.

Please delete paragraph [0031] and insert the following paragraph:

The container 3 is connected via a duct 6 to a valve device 10, a vacuum pump 7 and a vacuum reservoir container 8, via which, if a crash event is recognized by means of a customary pre-crash sensory mechanism 11, a negative pressure or vacuum can be abruptly generated in the container 3 in order to stiffen and compact the filling bodies 5 in the container 3. In this case, the triggering of the crash signal causes the valve device 10 to switch over and the gas which is in the container 3 to be conveyed via the duct 6, which preferably has the largest possible duct cross section in order to rapidly obtain a vacuum, into the vacuum reservoir container 8 which, in the design shown, is integrated within the vehicle seat 2, namely in the region of the backrest of the vehicle seat.

Please delete paragraph [0033] and insert the following paragraph:

A separate pump or else even a pump which is already present, for example, a series pump for a central locking system of the vehicle, can be used as the vacuum pump 7. If the vacuum pump 7 is combined with the vacuum reservoir container 8, the vacuum pump 7 can be of comparatively small design, in which case the vacuum pump can be switched off after the appropriate pressure level has been reached in the container 3. An overpressure container 20, as shown in Figure 3, using a Venturi principle via a Venturi nozzle 21, can be used to generate the vacuum or negative pressure in the container.

IN THE CLAIMS

Please amend the claims as follows:

1 (Amended) Head restraint of a vehicle seat, in which at least one container having an elastically deformable, gas tight covering is integrated, said

container being filled with a gas and at least partially with filling bodies and being provided with at least one duct which is connected to an evacuator assembly for an abrupt evacuation of the gas in the event of a crash and for refilling [with] of the gas.

3. (Amended) Head restraint according to Claim 1,
wherein the evacuator assembly for an abrupt evacuation of the gas in the event of a crash and for refilling [with] of the gas [are] is integrated below or within the vehicle seat[, in particular in the backrest thereof].

4. (Amended) Head restraint according to Claim 1,
wherein the container is divided into a plurality of chambers which are at least partially filled with the filling bodies.

5. (Amended) Head restraint according to Claim 4,
wherein the chambers are designed [such that they are] being one of hermetically sealed with respect to one another [or are] and at least partially gas-conductively connected to one another.

7. (Amended) Head restraint according to Claim 6,
wherein the materials for the filling bodies comprise deformable [and/or] and non-deformable materials.

8. (Amended) Head restraint according to Claim 1,
wherein the duct has at least one valve device of the [actuator] evacuator assembly located therein.

10. (Amended) Head restraint according to Claim 9,
wherein a pump for a central locking system in the [motor] vehicle can be used as the vacuum pump.

14. (Amended) A vehicle head restraint assembly comprising:
at least one container with an elastically deformable covering,
gas and filling bodies in the at least one container,
a duct connected to the at least one container, and
an evacuator operable in use to evacuate the gas from the at least one container through the duct.

15. (Amended) A vehicle head restraint assembly according to Claim 14, further comprising a pre-crash sensing mechanism operable to activate the [actuator] evacuator in response to a predetermined crash event involving a vehicle [with] including said head restraint assembly.

17. (Amended) A vehicle passenger seat assembly comprising:
a backrest,
a headrest composed of at least one container with an elastically deformable covering,
gas and filling bodies in the at least one container,
a duct connected to the container, and
an evacuator operable in use to evacuate the gas from the at least one container through the duct,
wherein said [actuator] evacuator is disposed at least in part in said backrest.

18. (Amended) A vehicle passenger seat assembly according to Claim 17, further comprising a pre-crash sensing mechanism operable to activate the [actuator] evacuator in response to a predetermined crash event involving a vehicle [with] including said head restraint assembly.

19. (Amended) A method of making a vehicle head restraint assembly, comprising:

connecting a plurality of containers together, which said containers each include an elastically deformable covering,

filling at least one of the containers with gas and filling bodies,

attaching a duct to communicate with an interior space of the at least one of the containers, and

providing an evacuator operable to evacuate gas from the at least one of the [container] containers through the duct.

20. (Amended) A method of operating a vehicle head restraint assembly which includes:

at least one container with an elastically deformable covering,

gas and filling bodies in the at least one container,

a duct connected to the at least one container,

said method comprising evacuating gas from the at least one container through said duct in response to detection of a vehicle crash condition.